

Appl. No.: 10/506,370
Amdt. Dated January 27, 2009
Reply to Office Action of November 12, 2008

REMARKS/ARGUMENTS

Claims 1-4, 6-12, and 14-25 are now pending. Claims 1, 11, 17, 18, and 19 have been amended. Claims 5 and 13 have been canceled. New Claims 20-25 have been added.

Claims 1-2, 11, and 17-19 were rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/63764 to Malmivirta et al. in view of WO 00/51380 to Rimpela et al. Claims 3-8 and 12-14 were rejected as unpatentable over Malmivirta and Rimpela, and further in view of U.S. Patent No. 6,272,337 to Mount et al. Claims 9-10 and 15-16 were rejected as being unpatentable over Malmivirta and Rimpela, and further in view of U.S. Patent Application Publication 2003/0028643 to Nelson, Jr. et al.

Response to Rejections Under 35 U.S.C. 103(a)

Claim 1 recites a method comprising three steps, namely, (1) transmitting a predetermined data pattern from a test apparatus to the mobile telephone terminal on a downlink, (2) the terminal receiving the predetermined data pattern and responding by transmitting an access request on an uplink to the test apparatus, and (3) the test apparatus receiving the access request and analyzing the access request to assess the performance of the terminal based upon assessment of the access request alone. Claim 1 has been amended to further specify that the test apparatus transmits the predetermined data pattern multiple times at different power levels, and the test apparatus analyzes each access request to determine a power level threshold at which the terminal fails to transmit an access request. The method of Claim 1 thus is simple in that the test apparatus analyzes the access request alone to assess the performance of the terminal, and does not need to engage in an exchange of messages in response to the access request in order to analyze the performance of the terminal. The method of Claim 1 requires only that the terminal issue an access request, and the test apparatus analyze the access request. Further exchanges between the test apparatus and terminal are unnecessary.

Claims 1-2, 11, and 17-19 were rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/63764 to Malmivirta et al. in view of WO 00/51380 to Rimpela et al. The Office

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Action's analysis does not recognize the significance of the inventive feature that the performance of the terminal is determined through analysis of the access request alone, without responding to the terminal. In both Malmivirta and Rimpela, the test equipment responds to the access request and enters into an exchange of messages with the terminal, through which process the performance of the terminal is assessed.

The claimed invention therefore provides a simplified method and apparatus for testing mobile telephone terminals, and neither of the references Malmivirta or Rimpela discloses or teaches this invention.

More particularly, Malmivirta describes a test method in which the mobile station loops-back downlink data received from the test equipment onto the uplink of the mobile station to be received and analyzed by the test equipment. This is described in more detail on page 6, line 17, to page 7, line 12, and Figure 3, which shows the loop-back as arrows 332 and 333. Page 7, line 35 to page 8, line 7 describes how the mobile responds with a channel request RACH in the normal course of operation of the mobile, and serves to set up the loop-back test mode. The test equipment and mobile station then engage in a plurality of exchanges (see particularly page 8, lines 1-7). Malmivirta thus fails to disclose or suggest the claimed invention.

Rimpela discloses a test procedure that is activated in a mobile station by means of a message, as described on page 8, lines 17-22. A special message 505 activates the test mode, and a special test message 310 defines parameters to be transmitted and the test procedure to be used.

In neither Malmivirta nor Rimpela is there any appreciation of the fact that analysis of an access request alone can be sufficient to test a mobile terminal.

Applicant respectfully submits that the novel feature of analyzing an access request alone to determine the performance of a mobile terminal produces significant benefits in terms of simplification and reduced cost, and is not suggested by conventional test arrangements as

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typified by the cited references. The claims of the present application therefore define both novel and nonobvious subject matter.

As noted, independent method Claim 1 has been further amended by combination with Claim 5, which has now been canceled. The features of Claim 5 comprise transmission of the predetermined data pattern multiple times at different power levels, and analysis of the corresponding access requests to determine a power level threshold for generating an access request. These features are not disclosed in any of the references cited. With respect to Claim 5, the Office Action asserted that U.S. Patent No. 6,272,337 to Mount et al. discloses these features at col. 4 line 54 through col. 5 line 6. However, close reading of this passage reveals that it neither teaches nor suggests any test equipment that transmits a predetermined data pattern multiple times at different power levels and analyzes the corresponding access requests to determine a power level threshold at which the mobile terminal fails to transmit an access request.

The independent apparatus Claim 11, equivalent to the method Claim 1, has also been amended by combination with Claim 13, which has now been canceled. The features of Claim 13 are equivalent apparatus features to the method features of Claim 5. Thus, for similar reasons to those given above for method Claim 1, apparatus Claim 11 is also patentable over the cited references.

The independent method Claim 18 has also been amended by the addition of the features of Claim 5, and the independent apparatus Claims 17 and 19 have been amended by combination with the features of Claim 13.

New independent Claims 20 and 21 have been added, which are of similar scope to original Claims 1 and 11 but which have been further limited by the analysis of the access request by a modulation quality measurement. None of the cited references discloses or suggests such analysis of an access request. The Office Action, in rejecting original Claim 10 having this feature, asserted that it is disclosed in U.S. Patent Application Publication 2003/0060224 to Nelson, Jr. et al., at paragraphs [0015] and [0016]. However, Applicant cannot find any teaching

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or suggestion in these paragraphs that a test apparatus should analyze an access request from a mobile terminal by making a modulation quality measurement of the access request. Paragraph [0015] describes that an access request message can include “timing alignment information”, and the transceiver that receives the message can analyze it and provide feedback indicating whether the reply is appropriately transmitted within a time slot. Paragraph [0016] describes that the transceiver that receives the mobile’s reply message can determine whether the power level of the message is at a desired power level. Thus, these paragraphs have nothing to do with a test apparatus analyzing an access request by making a modulation quality measurement of an access request. For these reasons, new Claims 20 and 21 are patentable over the cited references.

In addition, new dependent Claims 22 and 23 have been added which further specify the nature of the modulation quality measurement in Claims 20 and 21.

New independent Claims 24 and 25 have also been added which are similar in scope to Claims 20 and 21.

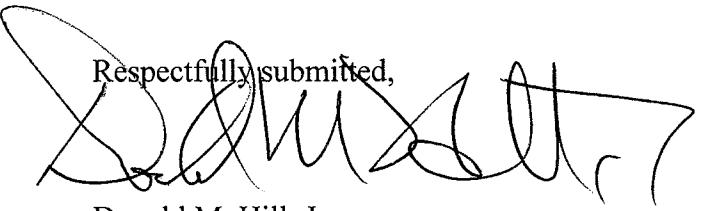
Applicant submits that all pending claims are patentable over the prior art of record.

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Conclusion

Based on the above amendments and remarks, it is submitted the application is in condition for allowance.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefor (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

Donald M. Hill, Jr.
Registration No. 40,646

Customer No. 00826
ALSTON & BIRD LLP
Bank of America Plaza
101 South Tryon Street, Suite 4000
Charlotte, NC 28280-4000
Tel Charlotte Office (704) 444-1000
Fax Charlotte Office (704) 444-1111

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